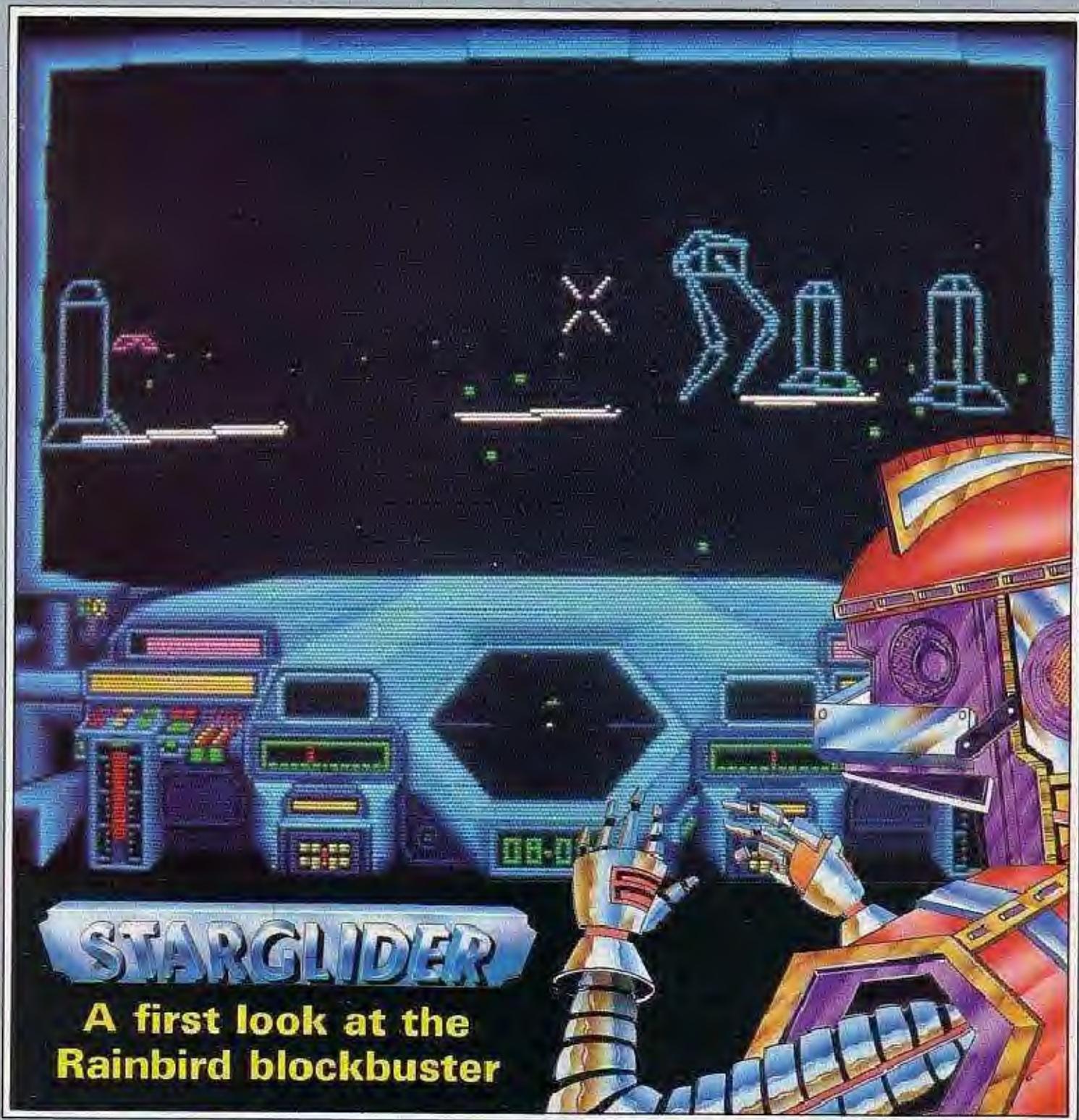


Vol. 1 No. 7

September 1986

# Atari ST User



## STARGLIDER

A first look at the  
Rainbird blockbuster

- **Megamax C compiler:** Was it really worth the wait?
- **LaserBase:** New-style database put to the test
- **The first ST 5-liners** for you to type in

# TWILLSTAR COMPUTERS LTD

FREE CATALOGUE and full price list. Call now for your issue.

## TCL Special Package

**ATARI®**  
Power Without the Price™



**TCL 1**  
520 STM Computer with 500k Disk Drive and High Res Monochrome Monitor £575.00

**TCL 2**  
520 STM Computer with 500k Disk Drive and Medium Res. Colour Monitor £775.00

**TCL 3**  
520 STM Computer with 1 MBYTE Disk Drive and High Res Monochrome Monitor £635.00

**TCL 4**  
520 STM Computer with 1 MBYTE Disk Drive and Med. Res Colour Monitor £845.00

**TCL 5**  
1040 STF with built in 1 MBYTE Disk Drive and High Resolution Monochrome Monitor £790.00

**TCL 6**  
1040 STF with built in 1 MBYTE Disk Drive and Medium Res. Colour Monitor £950.00

All TCL Packages come complete with all interconnecting cables and are supplied with ST Basic, ST Logo, and 1st Word

## Printers

### CITIZEN 120 D

This new citizen 120D with 120 CPS and 25 CPS NLQ comes with tractor and friction feed as standard. IBM and Epson Compatible with TWO years Warranty £159.00

### CITIZEN M5PIO

The new citizen M5PIO with 180 CPS Draft and 40 CPS NLQ. With TWO years Warranty £269.00

### KAGA

KP810  
KP910

£249.00  
£399.00

### EPSON LX80

With 100 CPS draft and 18 CPS NLQ and optional tractor adaptor and sheet feeder. This printer has a standard parallel connection and accepts all other Epson serial Parallel boards with external dip switches for easy access and internal JK buffer. It offers a high specification at a low price. £229.00

### EPSON LX86

£249.00  
PANASONIC KX1202G £159.00

## ALSO AVAILABLE

Epson FX 85	£365.00
Epson FX 105	£495.00
Seikosha GP 50A (Parallel)	£65.00
Seikosha GP 50S inc: Printer IF + cables	£65.00
Canon PW 1080A (NLQ)	£249.00
Canon A55	£379.00

## DAISYWHEEL PRINTERS

QUEN DATA DWP 1120	with optional tractor/sheet feeder and 13" paper width facility.
This Daisywheel printer with 20 CPS	has 96 character printwheel compatible with the QLUME.
Standard centronics interface (optional RS232C)	£169.00
Brother HR 15XL	£289.00
Juki 6100	£265.00
Juki 2200	£275.00
Juki 6300	£799.00

## ATARI SOFTWARE

Please allow 7 days delivery on some items of Atari Software.

### ACTIVISION

Borrowed Time	£49.95
Hacker	£44.95
Mind Shadow	£49.95
Degas	£39.95

### CASHLINK

Accounts Package	£339.95
HALSA	
Dex	£39.95
Hippo 'C'	£74.95
View	£74.95
Video Drifter	£139.95
Writer	£59.95

## SPECIAL OFFER OF THE MONTH

### KX-P 1080 DOT MATRIX PRINTER

The Panasonic KX-P 1080 impact dot matrix printer is ideal for applications that require economical high quality printing. It offers a variety of print modes, all producing crisp clearly formed characters. Wide choice of print sizes includes semi compressed and compressed (even in near-letter quality printing). Operator accessible print mode selector adds convenience. For a reliable printer at an affordable price, the KX-P 1080 is always a smart choice.

£159.00

## SERVICES

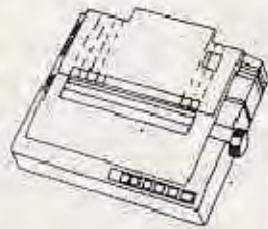
We have a comprehensive range of spares for the ST. Backed by our in-house Service Department.

visit our  
**NEW SHOWROOM**  
Open 9am-6pm Mon-Sat  
**OPEN SUNDAYS 10-2**  
(From September 1st)

## YOUR ONE STOP MEGA-COMPUSSTORE FOR HOME, EDUCATION & BUSINESS NEEDS!

### NEW STAR NL-10

Fine Near-Letter-Quality, 100% compatibility and total reliability all in one easy to use printer. For quality, ease of operation and dependability, nothing beats the Star NL-10. You get outstanding print quality at 120 cps in draft mode and 30 cps in near letter quality. Plus, the sleek NL-10 offers full compatibility with most popular computers through plug in interface cartridges. Just insert the appropriate plug in interface cartridge for your IBM-PC, Commodore, Apple IIe or other parallel computer and your Star NL-10 is ready to print. Touch a button on the control panel to set the print pitch (3 choices), to select the typeface and to print in either draft or NLQ mode. You can even set left and right margins, make top of form settings and control forward and reverse feed in the smallest pitch. £229.00



## KUMA

K-Ram	£29.95
K-Comm	£49.95
K-Seiko	£49.95
K-Spread	£49.95

## METACOMCO

Lattice C	£99.95
Meta Pascal	£89.95
Macro Assembler	£49.95

## MICRODEEL

Flipsides	£19.95
BBS	£29.95
Calendar	£19.95
Direct File Transfer	£29.95
Disk Help	£29.95
Kissed	£29.95

## Accessories

### LISTING PAPER

11" x 9½ 2000	£14.00
Teletypewriter Roll	£4.50
Teletypewriter Roll Holder	£14.00

### PRINTER LABELS

1000 90 x 36mm 1 across	£5.70
2000 90 x 36mm 2 across	£12.00

SF354	500k Disk Drive	£133.00
-------	-----------------	---------

SF314	1 MBYTE Disk Drive	£175.00
-------	--------------------	---------

SH207	20 MBYTE Hard Disk	£750.00
-------	--------------------	---------

SM124	12" High Resolution Monochrome Monitor	£133.00
-------	--	---------

SC1424	14" Medium Resolution Colour Monitor	£349.00
--------	--------------------------------------	---------

Printer Lead for ST Series	£12.00
----------------------------	--------

## How to Order

You can purchase any of the items listed. All you have to do is write your requirements on a sheet of paper, and we will despatch your goods within 24 hours, subject to availability. Please add the following amounts for Postage and Packing.

Items below £10.00 add £1.50  
Items below £50.00 add £2.50  
Items below £100.00 add £3.50  
Items over £100.00 add £8.00  
(UK Mainland only)

All prices include VAT at 15%  
'No Hidden Extras'

Please make cheques payable to:

**TWILLSTAR COMPUTERS LTD**

Access/Visa Card Holders:

Welcome. Call now on:-

01-571 5938 or 574 5271



### CREDIT FACILITIES

Full credit facilities now available nationwide

- LOW DEPOSITS

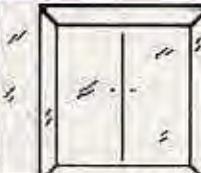
- FAST FRIENDLY SERVICE

- UP TO 3 YEARS TO PAY

Call for further details

Typical APR 36.3%

## TWILLSTAR COMPUTERS LTD



APEX HOUSE, BLANDFORD ROAD,  
NORWOOD GREEN, SOUTHALL,  
MIDDX UB2 4HD,

Tel: 01-571 5271      01-571 5938  
Telex: 25247 Telex G. attn TIL





# Atari is ready to steal the show

ATARI is about to lay siege to the prestigious PCW Show with an awesome display of corporate strength, the like of which has never been seen there before.

Just one year after it raised its ST standard for the first time in the UK at the same event, the message from the company is clear – the battle for dominance is over and Atari has won.

With an area covering 1,000 square metres, its physical presence not only completely overshadows that of its rivals but is also two and a half times greater than it was at the PCW Show in 1985.

Atari is also rolling out its big guns from the States as a demonstration of the level of importance attached to what is effectively the ST's first birthday bash. Sam Tramiel, the president, will be flying over along with his brother Leonard and Sig Hartmann, the software supremo.

Also paying court to Atari will be 40 leading UK software houses who have committed themselves to ensuring the ST's success. "This time we'll be showing the world what the ST can do", says Atari's Rob Harding.

Though the companies will all be demonstrating new products at the show, they naturally prefer to keep their nature a surprise. However, thanks to a little arm twisting, a few details have come to light.

It seems that games are likely to be prominent – but those of a suitable level of sophistication to warrant exposure to the ST. StarGlider from Rainbird and Mercenary from Novogen both promise to extract the maximum from the machine, as will Arena from Psygnosis.

There are also more than 20 new business packages to be unveiled on the first day, though advance information in this area is very sparse.

Kuma will be launching the K-Word, a word processor, and K-Switch, a package which enables the use of two programs at the same time. The only other fact to be gleaned at the time of writing was there will be a couple of new video digitisers unveiled.

Why all this fuss over just one show? Well the Personal Computer World Show just happens to be to home computers what Henley is to rowing or Royal Ascot is to racing. It's where you've got to be seen.

Not that there are any winners named there – in theory that is. There aren't any particular judges or referees or umpires to formalise the proceedings, yet the competition remains intense.

For this is the principal occasion during the year when all the leading companies display their wares for computer media and discerning buyer alike.

This year will see the brash upstarts of Amstrad attempt to steal the show with their PC clone. But they may find themselves vying with Apple, which also is believed to have a new machine up its corporate sleeve.

★★★

THE giant Microsoft corporation, which boasts a turnover of \$200 million, has given its blessing to the ST range. It has done this by agreeing to develop a version of its famous Word package for the machines. To be known as Write, it is being described by Ataris as "a new technology word processing program".

It is not just the provision of the package that is being seen as a coup by Atari, but the fact that it carries with it an endorsement for the ST from such a

powerful company. "You could compare it with a blessing from the Pope", observed one industry pundit.

★★★

THE ST is soon to be graced with a word processing first – a package for Urdu speakers. Under development by Sheffield firm Micropraxis, it will arrive with an appropriate overlay for the keyboard.

One of the reasons that no one has bothered to produce an Urdu word processor before now is the complexity of the language. Urdu is written from right to left and has several hundred characters, many of which have only slight differences.

The software house hopes to find a ready market among Pakistanis living in the UK, as Urdu is their official language. It is being seen as a way to familiarise Asian women with the new technology in their own language.

Also in the pipeline are Bengali and Hindi versions of the word processor.

★★★

WHEN Jenny Pope decided to program the family finances into her ST she never dreamed it would result in her cancelling her holidays this year.

But after a few simple calculations using Personal Money Manager the stark truth stared out from the monitor screen. Within two weeks, the Pope family would be £200 in the red.

"There was nothing else we could do but cancel our planned two week holiday in the Scillies", she said. "We stayed at home instead".

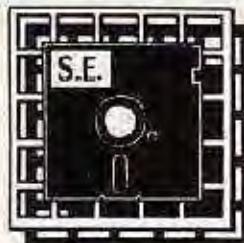
Yet the Popes might have blissfully gone away on their annual vacation without realising their impoverished state if it hadn't been for Jenny's job. For she just happens to be the personal assistant to John Symes, the managing director of Microdeal, the company that produces Personal Money Manager.

"He'd asked me to take the package home to familiarise myself with it", recalls Jenny. "It was really an exercise when I keyed in the details of my finances and those of my husband Peter, who happens to be an underpaid teacher."

"So you can imagine the shock when it revealed the accurate financial picture. There was nothing else we could do under the circumstances but cancel our holiday."

"It's a good job we did. As forecast, our bank statement two weeks later showed we were overdrawn by £204".

**Mike Cowley reporting**



# SOFTWARE EXPRESS

COMPUTER SYSTEMS LTD.

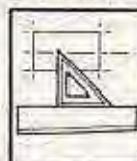


## GRAPHICS



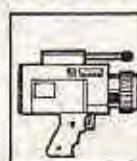
<b>NEW!</b>	PAINTWORKS .....	£34.95
	EXCELLENT GRAPHICS PACKAGE COMPATIBLE WITH THE "MUSIC STUDIO"	
	DEGAS..... THE ESTABLISHED FAVOURITE!	£39.95

## TECHNICAL GRAPHICS



<b>NEW!</b>	CAD-3D .....	£49.95
	DESIGN IN 3D. STONEHENGE BUILT IN!	
	EASY DRAW..... COMPREHENSIVE TECHNICAL DESIGN PACKAGE	£149.95

## PRESENTATION



<b>NEW!</b>	ANIMATOR..... TRUE ANIMATION ON NEO OR DEGAS BACKGROUNDS	£29.95
	HIPPO ART .....	£39.95

## GAMES



<b>NEW!</b>	TRINITY .....	Check Price
<b>NEW!</b>	LATEST FROM INFOCOM	
<b>NEW!</b>	PHANTASIE .....	£39.95
<b>NEW!</b>	FROM S.S.I.	
<b>NEW!</b>	LEADERBOARD..... 3D GOLF SIMULATION	Check Price
	MAJOR MOTION..... HIGHWAY SHOOT OUT	
	DELTA PATROL..... DEFENDER STYLE SHOOT-'EM-UP	£19.95
		£24.95

## BUSINESS



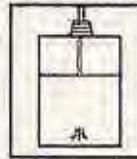
PERSONAL MONEY MANAGER .....	£29.95
FINANCIAL COOK BOOK .....	£49.95
ST ACCOUNTS.....	£172.50
CASHLINK ACCOUNTS .....	£339.25
K-SPREAD (SPREAD SHEET).....	£49.95
K-GRAF (GRAPH GENERATOR).....	£39.95
DB-CALC (DATABASE) .....	£49.95
DB-MAN (DATABASE)..... LIMITED STOCKS AT THIS PRICE	£149.95
H & D BASE (DATABASE)..... HABAVIEW SPECIAL OFFER!	£99.95

## COMMUNICATIONS



<b>NEW!</b>	FLASH .....	£39.95
	FROM ANTIC	
	K-COMM .....	£49.95
	PC-INTER COMM .....	£124.00

## ACCESSORIES



<b>NEW!</b>	REAL-TIME CLOCK CARTRIDGE .....	£49.95
<b>NEW!</b>	DISK DRIVE CABLE (6 FEET) .....	£19.95
	CUMANA D/DRIVE SINGLE.....	£159.00
	CUMANA D/DRIVE DOUBLE.....	£269.00

514-516 ALUM ROCK ROAD, ALUM ROCK,  
BIRMINGHAM

DEALER ENQUIRIES  
MOST WELCOME

021-328 3585

please phone  
for latest lists



EVER since *Atari ST User* started this column to help users with their problems I have been flooded with questions about ST Basic. As many of you will know, or will eventually find out, it is made almost useless by a very large number of bugs, which should have been corrected before the language was released.

Unlike bugs in the Basics of other micros those in ST Basic are mostly impossible to ignore or write around. Atari has been working on a new version of Basic for some time, details of which are few and far between. Although it will certainly fix the bugs of the old version it is unlikely to add any features. It is expected to be available before the end of the year and will probably cost little more than the price of a blank disc.

Until it arrives I can only suggest that you try to avoid the bugs in the present version as best as you can, or that you buy another language such as Personal Pascal, Modula 2 or C, all of which will give you far better access to the ST's facilities.

★ ★ ★

John Mason from Runcorn has a Microvitec monitor attached to his BBC Micro and wonders whether he can attach this to his new ST. Unfortunately the signals that the BBC Micro and the ST output are slightly different and therefore a monitor that is made to attach to the former such as a Microvitec, cannot work with the latter.

It is possible to modify the Microvitec to



*Monitor for the ST?*

operate with the ST, but this change will mean that the monitor will then no longer operate with the BBC Micro. Another solution would be to buy an STM, or wait until a third party manufacturer starts making modulator units for the ST. This will enable you to use a television for lo-res colour and a B&W monitor for hi-res work.

★ ★ ★

Surprisingly the ST's manual doesn't tell you how to copy files with a single disc system and the problem has P.J. Worden from Chigwell stumped. Here is a step by step guide:

Firstly open up a window for drive A, then select the file that you wish to copy, by clicking on it once. Drag the file to the drive B icon and, finally, swap the source and target discs as instructed.

It usually takes about three passes to copy

# Living with ST Basic bugs ...

Q  
A

one file. Although you only have one drive the ST differentiates between the two discs by calling the source A and the target B.

★ ★ ★

Loads of you have bought Epson LX80s and other printers which allow you to print text in near letter quality mode, many of which must be set to NLQ mode by special control codes from your word processor. Unfortunately 1st Word and most other ST word processors have no special provision for such printers.

To print in NLQ mode you must set up separate printer installation files and select the one you require for each separate document which means that you cannot mix modes within a document.

This is an unsatisfactory method for achieving NLQ printing, and I hope that word processor manufacturers will look into this problem. Please write to me if you know of a better solution.

★ ★ ★

David Manders from Cheltenham has told me of the difficulties he first had when he tried to use his Epson LX80 printer with 1st Word version 1.06. The printer insisted upon wasting two sheets of paper every time he printed out a document.

David says that in the printer installation file there is a command line labelled Vertical Initialisation. If you place an asterisk in front of this line you should have no further problems.

★ ★ ★

Christophe Berguerand of Antony, France, has written asking where he can obtain the special ST video and disc drive DIN plugs. As these plugs are non standard they are virtually impossible to find in your local electronics shop.

The plugs are on Atari's spares list, but they will not supply the public with such spares. It is therefore best to ask your local dealer to order them from Atari for you.

★ ★ ★

Finally before you all start writing in to say that last month I said that Degas costs £19.95 let me explain that it was wishful thinking on my part and that I know that the price is really £39.95!

**Send your  
Atari ST  
queries to:  
ANDREW  
BENNETT,  
Atari ST User,  
Europa House,  
68 Chester Road,  
Hazel Grove,  
Stockport  
SK7 5NY.**

# NEW for the ST from

**microdeal**  
ELECTRONIC PUBLISHING

## CORNERMAN

£29.95

What Sidekick did for the IBM, *Cornerman* does better for your Atari ST! This utility gives you a host of useful desk-top tools in one simple, neat package. With everything from a built in clock to a full function calculator, a cluttered desk is a thing of the past. And as a Desktop Accessory, *Cornerman* is available nearly anywhere within GEM.

- **REAL-TIME CLOCK** in digital or analog form.
- **NOTE PAD** lets you write and store notes for handy future reference and reminders.
- **ASCII TABLE** shows the ST's symbols with their decimal & hex values. Great for programmers!
- **PHONE BOOK** stores all your important names & numbers, dials through your modem and even records elapsed calling time!
- **16 DIGIT CALCULATOR**: works in binary, octal, decimal, and hex; 3 memory registers; math and logic functions; base conversions; "tape" printer output.
- **DOS WINDOW** for easy access to MichTron's Dos Shell program.
- **15-SQUARES GAME** simply for entertainment.
- Doesn't interfere with other programs.

\* Hayes Compatible

## UTILITIES

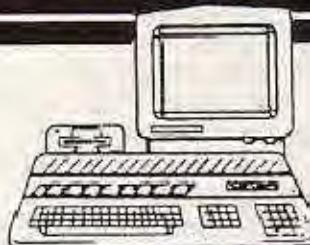
£39.95

What would a utility be worth that could turn back time and end frustration? Before you find out the hard way that such a utility would be priceless, prepare yourself with *MichTron Utilities*. This utility searches for and retrieves deleted files and lost data. It also lets you change file contents, attributes, file and volume names, or any individual bytes on disk! Just enter replacement data or click on selector buttons. You can format individual disk tracks and copy individual sectors to repair damaged disks. A new 10 sector format utility lets you add 80K of storage capacity to your disks.

## PERSONAL MONEY MANAGER

£29.95

This personal accountant will keep accurate totals for as many expenses, income sources and accounts as you need. Print Ledgers and other kinds of reports for a true picture of your current financial status. You can form projected budgets for future expenses and income. Fast and powerful, the Money Manager uses the GEM system for simplicity.



## UTILITIES:

- THE ANIMATOR** (£29.95) – Animate Neo or Degas pictures for business presentations, or just for fun.
- BBS** (£29.95) – Complete Bulletin Board System.
- CALENDAR** (£19.95) – Desktop appointment calendar.
- D.F.T.** (£29.95) – Transfer files between the ST and IBM.
- DOS SHELL** (£29.95) – Mimics the MS-DOS command structure: "global" commands, batch files, and more.
- Introduction to LOGO* (£19.95) – Easy tutorial lets you learn to program in Logo.
- KISSED** (£29.95) – Debugger features full-screen editing, mini-assembler/disassembler, help function and more.
- M-DISK** (£12.95) – RAM-disk emulator gives you the equivalent power of an extra disk drive!
- MI-TERM** (£29.95) – Advanced communication program lets your ST talk to virtually any other system.
- MIGHTY MAIL** (£29.95) – Complete mailing-list manager features multi-level sorts and conditional "flags" for specialized reports.
- SOFT-SPOOL** (£12.95) – Frees your ST to print & compute at the same time.
- TWIN PACK** (£19.95) – Our two best selling utilities on one disk, at a money saving price.
- DISK HELP** (£29.95) – Menu driven simple disk repair program.

## ARCADE GAMES:

- MAJOR MOTION** (£19.95) – Race down the highway, destroying enemy spies as you gain new weapons and defenses (color monitor).
- TIME BANDIT** (£29.95) – Collect the Treasures of Time! Choose from a multitude of worlds: 13 unique arcade lands and 3 complete arcade adventures (colour monitor).
- LANDS OF HAVOC** (£19.95) – Play this unique 2000 screen arcade adventure that comes complete with 9 full colour maps to help you through the first 81 screens.
- ELECTRONIC POOL** (£19.95) – An adaption of video pool for the ST includes unique fun keys.

## STRATEGY GAMES:

- FLIP SIDE** (£19.95) – Play Reversi against live or computer foes.
- CARDS** (£19.95) – Blackjack, Cribbage, Klondike, Poker Squares, and Solitaire (medium or high res only).

Available from Atari ST Dealers worldwide or from

By phone

**Tel 0726 68020**



Post & Packing 75p

**microdeal**  
ELECTRONIC PUBLISHING

By Post

**BOX 68  
ST AUSTELL  
PL25 4YB  
ENGLAND**

# Launched at last—the superb Starglider

**AT the Personal Computer World show in September last year one of the many ST systems on Atari's enormous stand displayed some sample 3D graphics which, we were told, were destined to become a game known as Starglider.**

After nearly a year in development, and many a delayed launch, Rainbird Software has announced that by the time you read this Starglider should be on the dealers' shelves.

It is set on the planet Novenia, the home of the legendary Starglider bird. The planet's other inhabitants built giant sentinels to protect themselves from attacks from other worlds. These sentinels were programmed to destroy anything that looked as though it might pose a threat to Novenia, but to protect the famous birds they were programmed to ignore them as they returned from their long migration.

The evil Egrons, seeing this weakness in the Novenia defences, built giant attack craft which closely resembled the birds. The sentinels were fooled, and the fake Stargliders got past the defences to wreak havoc and lay waste to the surface of Novenia.

Only small pockets of the populace remained alive, some in the protected sentinel repair depots, but most on a remote outpost on

Novenia's moon. The Egron race is intent on taking over Novenia and using it as the staging post for their further conquests around the galaxy.

Two young people, Jaysan and Katra, and their ancient, but well-armed AGAV — Airborne Ground Attack Vehicle — stand between the Egrons and victory. Leaving their base on Novenia's moon they set out to annihilate the hundreds of enemy Bute fighters, indestructible walkers, tanks and other assorted craft of the Egon attack fleet which were brought to Novenia inside the fake Starglider craft.

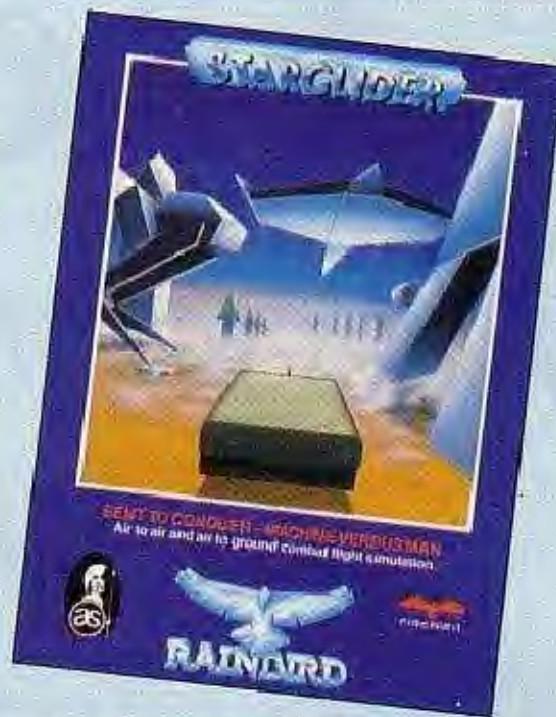
Accompanying Jaysan and Katra is Agro, their ever complaining robot. Their ultimate aim is to destroy the last remaining enemy Starglider and regain control of the planet.

The accompanying 64 page novella goes into great detail about Jaysan and Katra's adventures in the AGAV, and is an enjoyable read as well as supplying vital information and clues. Unless it is read the game cannot be enjoyed to the full.

Your craft is controlled by mouse and keyboard, and playing the game involves flying the AGAV between the power towers on the surface of Novenia, firing on the enemy craft and finding methods for refuelling — the last being the most difficult since it involves dangerous manoeuvres which are detailed in the novella. Your ship is armed with laser cannons and missiles which can only be replenished during a visit to one of the rotating repair depots.

The game sports some amazing vector graphics, with full hidden line removal, digitised speech and sound effects.

Starglider won the hearts of American ST game players, who had a chance to see it demonstrated at the recent CES show in Chicago. Potential fans in the UK will no doubt be given a similar chance at the PCW show in London or at local dealers. The game will operate in either lo or hi-res modes, and will retail for £24.95.



Those amazing vector graphics...

**By  
Andrew  
Bennett**

# The new 1M With a memory like this, we haven't forgotten.

Internal power supply.

Resolution: 640×400 pixel monochrome or 320×200 with 16 colours, 640×200 with 4 colours.

TOS in ROM creates a workspace of over 900K bytes.

94-key QWERTY keyboard with numeric keypad and cursor controls.

The price! Under £1 a Kb (excluding VAT) including colour monitor.



Monitor: 12" high-resolution monochrome or 14" colour.

Integral 1Mb (unformatted) double-sided 3½" disk drive.



An enormous 1024K RAM plus a powerful Motorola 68000 processor running at 8MHz.

Port for mouse or joysticks.



Two-button mouse.

# 1b1040STF

## that you can be sure gotten a thing

The Atari 1040STF employs state of the art 16/32 bit technology. Yet its price is unbeatable.

The ST range of computers already has a large number of software programmes available, including word processors, spreadsheets and databases, as well as a variety of programming languages and specialist business packages.

The 1040STF will also run software written on several other popular operating systems, including CP/M.

It has a 1024K RAM, integral 1Mb (unformatted) double-sided 3½" disk drive, two-button mouse and built-in power supply.

The operating system is in ROM, leaving RAM free for applications. BASIC and LOGO programming languages complete the package.

With 12" monochrome monitor, we recommend it sells for £799 excluding VAT saving you at least £1600 against its nearest rival. The price of our 14" colour system is a remarkably low £999 excluding VAT.

As the American magazine 'Byte' commented, "for some time to come the 1040STF will be the clear leader in price/performance."

For the name of your nearest dealer, ring Teledata on 01-200 0200.

And that includes an  
unbeatable price

Experience the world of Atari at the  
PCW Show, Level 1, 3-7 Sept'

 **ATARI**  
Power Without the Price™



# Megamax C spells speed and efficiency

*Product: Megamax 'C' Compiler*

*Price: £157.55*

*Supplier: Silica Shop, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX.*

**MEGAMAX C** will be familiar to many people as one of the best C compilers available for the Apple Macintosh. Now that it is finally available for the Atari ST range of computers, how does it stand up compared with the three C packages reviewed in the July issue?

The ST version comes on two single sided discs with a large manual. The standard package consists of a compiler, code improver, linker, disassembler, editor, librarian, resource construction program, and to tie it all together – a graphical shell. Overall, you get a complete development system – everything necessary to produce commercial quality software is provided.

To start things moving double click on SHELL.PRG, which loads the graphical shell. From here programs can be compiled, linked, edited and run. It also provides a host of other options, including a very useful feature called Make, which allows a program to be compiled, linked and run from one option on the drop down menu.

The editor operates under GEM, and allows

more than one source file to be edited at a time, each with its own separate window. Editing seems a little strange at first, as the cursor can only be positioned with the mouse – the cursor keys being used to scroll the window. This took a little time to get used to, but now feels quite natural. All the usual features such as cut and paste and search and replace are neatly implemented.

After saving the source file and quitting the editor control is returned to the main shell. From here the compiler can be invoked, and it is here that Megamax really shows its colours. The compiler makes only one pass, which leads to very speedy compilations – see Figure II. This single pass converts the C source code directly into binary object code, then, if no problems are encountered, returns to the shell.

If a compilation error has occurred the shell program automatically loads the editor, which then loads the source file together with a file named Errors. Both files are then displayed with the error file indicating the error type, number and source file line number – making correction very easy indeed. This method is almost as good as the Modula 2 system of highlighting errors, using special markers placed within the source file itself.

When a clean compile has finished and control has been returned to the shell, the linker can be called. This produces a machine executable format (.PRG). As with the compiler, the linker is single pass, which again results in extremely fast generation of final program code. In fact, the overall cycle of edit/compile/link with Megamax is considerably faster than that of any other C compiler we have used, including Hippo, Alycon, Lattice & GST.

Since the compiler converts the source file directly into object code format no assembler is provided with the system. This is made up for by the inclusion of an in-line assembler facility within the compiler itself. This is very good for small amounts of assembler code that needs to be directly interfaced with C, but can prove difficult to use when more complicated problems

**Reviewed  
by Peter  
Knowles  
and  
Roger Wier**

	<b>DR C</b>	<b>Lattice</b>	<b>GST</b>	<b>STBasic</b>	<b>Megamax</b>
Sieve	4.01	*4.91	7.80	962.50	3.83
Register Var	2.32	3.19	N/A	N/A	2.52
Fib	16.44	19.54	21.80	N/A	17.55
IntMath	3.72	*19.32	10.20	N/A	3.72
Frame	0.06	0.08	0.16	8.10	0.06
Pointer	13.30	14.64	28.10	N/A	18.51
Float	*14.53	105.08	N/A	195.00	52.07

Figure I: Program execution times in seconds

are attempted – such as interrupt handling. The reason for this is that Megamax's in-line assembler will only generate position independent code, whether from a C source or an assembler source. This means that direct addressing of specific memory locations – for example hardware ports and TOS Page 0 variables – has to be done indirectly via registers. Also data must be accessed as address relative, and the assembler data declarations are not fully supported – so you must declare all data in your C source segments.

The linker does not provide the ability to leave symbols in the finished code, which prevents the use of a symbolic debugger. This is a major omission by Megamax, especially considering the fact that the GST linker – also used by Lattice – supports assembly level symbolic debugging, even though a program for this is not provided. Only Digital Research give you a full assembly level symbolic debugger – called SID – with their package, although a third-party version is available from Hisoft.

The object code format used by Megamax is not the same as anybody else's, which means that only code generated by the Megamax compiler can be linked. This is a shame because object libraries readily available for certain functions will always have to be re-coded for use with Megamax. One of the great advantages of the Megamax linker is that it only includes the modules referenced by the compiler, thus reducing the final .PRG file size, and also the overall linking time. See Figure II for a comparison between the .PRG file sizes of various C compilers.

To complete the process, a code improver, or optimisation pass, is provided. According to the manual it should make programs about 3 per cent faster and 10 per cent smaller – but we have never managed to get as much as a 10 per cent reduction in size of files. All the timings given in Figure I are after the code improver has been run. We attempted to run the Savage benchmark printed in the July issue – not that complicated a program – but on return from holiday it still hadn't finished! The Megamax floating point routines may thus be regarded as somewhat suspect... for example, in single precision 9000 times 9000 gives a result of 81000100. To get the correct answer double precision was required. In another program, attempting to find the square root of a large number resulted in a negative answer.

The disassembler provided allows generated object code to be reverted to an assembler format. Unfortunately this particular format is not compatible with the Megamax in-line assembler, and several text edits have to be

	<b>DRC</b>	<b>Lattice</b>	<b>GST</b>	<b>Megamax</b>
Sieve	12598	15221	31730	7125
Compile Time	360	214	279	90
Empty	6271	10497	21244	1766
Fib	12520	15167	23424	7163
IntMath	13038	15481	24244	7491
Frame	12464	15093	23290	6904
Pointer	12492	15123	23380	6951
Float	*12778	15635	N/A	7537

\* See *Atari User*, July 1986.

Figure II: Program size and compile times (seconds)

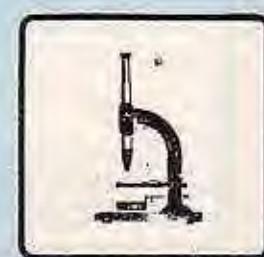
performed before the compiler will accept it as valid input.

To develop high quality software to run under GEM, some sort of a resource construction program is vital. Without such a utility it is almost impossible to define new pull-down menus and many of the other features that make a GEM program so easy to use. Megamax is the only company, apart from Atari themselves, that supplies one as standard.

The Megamax manual is contained in a large three ring binder and is reasonably well laid out with a good index. It covers many subjects such as GEMDOS, XBIOS, BIOS, VDI, and AES – which is more than most other C manuals do.

Using the C benchmarks printed in the July issue of *Atari User* the two tables give the information that many prospective buyers will be waiting for – execution speed, compile time and file sizes. Clearly Megamax C compiles faster and produces much smaller files. These are great advantages, and may well prove to be the overriding consideration to many prospective buyers – together with its friendly front-end shell and complete manual.

Megamax C does not come cheaply at £157.55, but these days you only get what you pay for, and in this case it is one of the most complete and well thought out packages currently available. For the future though, who knows? Some of the larger American software houses such as Mark Williams and Philon already have C compilers available on the ST, and Manx's Aztec C – which will include a full C source symbolic debugger – should follow in a few months time. In the meantime you could do a lot worse than invest in Megamax, especially if you only want to write small programs quickly and efficiently.



# MEGAMAX C FOR THE ATARI ST

## direct from MEGAMAX INC.'s U.K. Representative

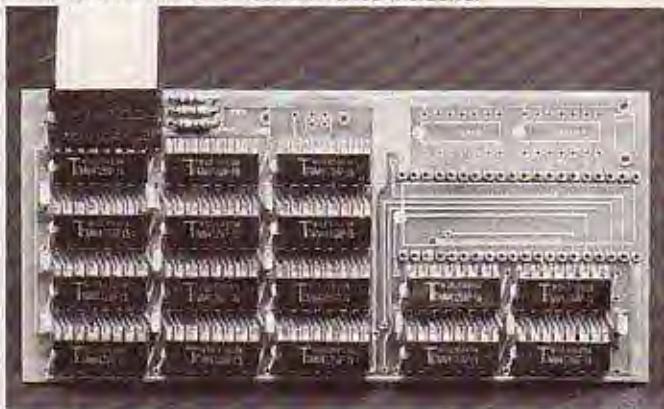
The MEGAMAX C is probably the best C development system available for the ATARI 520 ST. Already voted as the best C system for the APPLE Macintosh, the new ATARI package is even better, packed with even more features and now available at a very realistic price tag of just £137 (ex VAT).

- This package is a complete development system, not just the compiler and common IN/OUT library. Take the Graphical Shell for example. MEGAMAX fully supports all GEM routines (AES, VDI and DOS).
- Full Resource Construction routines (MENUS, DIALOGUE BOXES and ICONS).
- Increases speed of correcting, altering and re-running programs by up to SIX times compared to other C development systems.

- AS&T will provide full support to all their REGISTERED customers and dealers (including PRESTEL mailbox for queries and replies).
  - Library source code Listings available.
  - Subject to sufficient user support there will be a newsletter and additional library routine source disc service.
- MEGAMAX C development system including 400+ page manual plus system and utility discs.

### MEMORY CARDS

The AST-520 MEMORY CARD upgrades the standard 520 ST to ONE MEGABYTE of RAM, and costs under £100 inclusive of VAT! The AST-2080, goes even further, brings the RAM to TWO AND A HALF MEGABYTES for less than £400 inclusive!



AST Disc Drives are all 80-track double-sided, offering 720K (one megabyte unformatted) — TWICE the storage capacity of the standard ST drive. They are available in 3.5 and 5.25 inch formats. The drives are daisy chained to the standard ST drive, using the power and data cables supplied.



### SYSTEM CASES

1. CASED ATARI DRIVES
2. UNCASED 3½" DRIVES
3. MIXED DRIVES

You can give your ST a really professional look with the AST SYSTEM CASE. It can hold two 3.5 inch, and one 5.25 inch floppy drives, or a winchester drive together with the ST power supply units.



1. CASED ATARI DRIVES
2. UNCASED 3½" DRIVES

### PRICES

MEGAMAX C .....	£157.55
LIBRARY SOURCE DISC .....	£20.00
AST520 .....	£99.99
3.5ins DRIVE cased with leads .....	£99.00
With separate power supply .....	£124.00
5.25ins DRIVE cased with leads .....	£124.00
With separate power supply .....	£149.00
COURIER DELIVERY .....	£5.00

A.S.&T. Ltd.  
87 BOURNEMOUTH PARK ROAD  
SOUTHEND-ON-SEA  
ESSEX  
Phone 0702 618201

\*Installing the RAM upgrades will affect your guarantee, which will be replaced by AST's own guarantee. AST will install the upgrade for you, free of charge, at our premises. For the AST-520 RAM upgrade, you can send in your ST keyboard with payment on £103 to include board and return postage (£110 if Interlink next-day service is required).

**520STM AND AST1000** (1MEGABYTE DRIVE)  
DOUBLE SIDED  
**OR**  
**520STM+** (CONTAINS 1/2 MEG RAM BOARD)  
TO MATCH 1040STF MEMORY

**ONLY**  
**£465**  
INC.  
VAT

Advanced Systems and Techniques Ltd. offer a specialist ATARI ST service and guarantee. All computers are tested prior to despatch to ensure customer satisfaction. We offer unlimited advice together with a fast personal service.

**COMPUTERS**

520STM .....	£399.00
520STM+(1MEG) .....	£495.00
1040STF Colour Med Res. System .....	£1148.00
1040STF Colour Low Res. System .....	£1033.00

**PRINTERS**

Juki 5510 .....	£289.00
MP165 .....	£229.00
Citizen 120D .....	£180.00
Citizen MSP10 .....	£279.00
Star NL10 .....	£239.00
Quendata 1120 .....	£170.00
SM804 .....	£199.00
Printer Leads .....	£15.00

**DISC DRIVES**

SH204.20 Meg .....	£849.00
SF354 .....	£149.00
SF314 .....	£199.00
AST1000 1 MEGABYTE Double Sided drive with connecting leads to join with your existing SF354/SF314. No power supply only .....	£99.00
AST1000 .....	£25.00



**STARTER SYSTEM £1100**

Contains: 520STM+ with twin double sided drives, high resolution monitor, printer, plynth, box of paper and discs including cables free software and manuals. Delivery free.

**ACCESSORIES**

SM124 Monochrome Monitor ....	£149.00
Atari Colour Monitor Low Res ...	£299.00
Philips CM8533 .....	£299.00
AST Plynth .....	£23.00
AST System Case .....	£39.99
Box of 10 Discs .....	£27.60
Box of 2000 sheets of fanfold paper .....	£15.00
MEGAMAX C .....	£157.55
5.25 Drive with Power Supply ...	£149.50

**ACCESS/VISA WELCOME**

Please make cheques payable to:  
**AS&T LTD**

**CARRIAGE**

Disc Drives £5.00 Computers £7.00 Printers £7.00  
Monitors £7.00 Other Accessories £2.50

ALL PRICES  
INCLUDE VAT  
AT 15%

**AUTHORISED ATARI DEALER**

Please ring for demonstration of  
SYSTEMS from 520STM's up to  
1040 STF with COLOUR MONITORS and  
20 meg. WINCHESTER

To order any of the above products call AS&T on:  
**0702 618201**

Opening hours      Mon-Fri 0900-1730  
                         Sat 1100-1730

**Advanced Systems and Techniques Limited**  
87 Bournemouth Park Road  
Southend-On-Sea  
Essex SS2 5JJ  
Telephone: 0702 618201



Product: LaserBase/ST

Price: £99.95

Supplier: Laser Software Inc., 10 Church Street,  
Bovingdon, Herts. HP3 0LU. Tel: 0442 834393

**MOST** of you will by now have had a chance to play around with the software freebies that came with your new ST, including DB Master One, a simple but nevertheless quite useable database. Many other database packages have been released, but they have largely traded the simplicity of use provided by DB Master One for the versatility of DBase II – or its clones at any rate.

Laser Software Inc. has gone some way to bridging that gap with the conversion from the Macintosh of its LaserBase package. The design philosophy behind LaserBase/ST is to provide a full featured data storage program, using all of the features of GEM to give simple access to the information required.

The program is split into three modules – design, input and report. The first module you will encounter is design, which allows you to tell the computer what type of data you wish to store. Before you start you are given the option to define three security passwords, without which an unauthorised person can not access the database.

The first lets the user read the data, the second allows writing and modification of data, and the third gives full access to the design section – thereby allowing the database itself to be altered. Once these passwords have been defined – or omitted, if you wish – you can start to design your database format. Using the mouse you highlight a box for your first field and give it a name.

Each field can be defined as numeric, text, time or date. The size, shape and position is entirely up to you, and you can select from a wide range of type styles, borders and patterns to highlight certain items. You can also define additional boxes, lines, circles and text items – all with the same wide range of effects.

Each of these functions is selected from a panel of buttons on the left of the design screen, or by using the function keys. You can create up to 400 entry screens per database, and this system for defining your format is one of the simplest I have come across, the finished results having all of the polish of a specifically-written GEM entry system.

Once the format has been defined you must select a key field. This will be your quickest method for selecting data to view, so choose it with care as you won't be able to alter it later. That said, most other types of field are extremely flexible and may be altered at will, even after data has been entered. You can even add or delete fields from a database containing hundreds of

# LaserBase bridges that gap

records – a very powerful feature which normally would require a lot of copying of data between files.

From the design screen you use a pull-down menu to load up the input program. The mouse allows you to move about the screen and select fields, and the cursor keys let you move about within each field. The Tab and Shift-Tab keys are used to move forward or backward through the fields, and most types of field will allow optional error checking on entry.

This can cause problems, however, because the system can be too intelligent for its own good. A stray Return on the end of a date field, for example, seems to confuse the verify routine. Since the Return character can't be seen, LaserBase will reject a seemingly quite correct entry. It took me over an hour to find out why one of my fields did not seem to work properly! Also, the fact that the software will word-wrap fields if it gets to the last character is useful, but can cause no end of problems if you want a single character field, perhaps for Y or N responses, or a single numeric digit. Since the first character is also the last, it simply moves it on to an imaginary next line, leaving the field you are looking at blank. As a rule, use a minimum of 2 characters per field.

The input section not only allows you to type information in, but also to retrieve data and do simple enquiry operations. You may use the criteria screen to set up a sort and search operation, and even save it to disc for later use with the report function. Each line consists of English-type instructions, so a search might look something like this:

```
Sort by [Date] in ascending order,  
then by [Invoice Number] in descending order  
all customers whose [Balance] is  
greater than '10000' pounds.
```

The computer will ignore the padding words such as customers and pounds, and only use the words it understands – such as [Date] and ascending. Although this feature is powerful – even allowing you to define your own words – it is extremely slow. It seems to scan the entire database for each new instruction line, and took about five minutes to sort out a five line criteria on a 150 record database. For a product this powerful it should be able to use spare memory to help speed up the operation, and I'd hate to try

**André Willey looks at a new database converted from the Macintosh and finds it an easy to use and versatile package**

it out with a really large number of records.

Overall, the input program needs a little tidying up, but no doubt this will be done in the next release.

The final program of the suite is report, which will allow you to generate printouts and labels, using the same search criteria as before. The format is very versatile, allowing multi-line headers and footers, plus the usual page numbering and time/date stamping from the system clock.

Each record can be set out exactly as you wish, although the automatic field header line cannot be edited quite as the manual describes. Totalling is available on numeric items, and a break item can be defined which will total up the fields each time a given field changes. You could use this, for example, to total up invoices each time the date entry changes, thus giving daily totals. You can even force a new page when this happens, and have the new date placed in the page heading, if you require. My review copy had some bugs here, but Laser Software seemed extremely helpful, and very quickly corrected the fault and sent a revised version out.

This quick and helpful response seems typical of the company, and they are developing a series of extra utilities to go with their product. These will be available at the cost of a disc to any LaserBase users, a very commendable gesture. The first batch includes an import program, which allows you to get data from another program or document, a customise keywords routine, a password checker and more. I gather a merge utility is on its way, too.

To test the whole system out I decided to port a database over from my 8 bit 130XE on to LaserBase on the ST. In what I laughingly call spare-time, I am a bit of a science fiction enthusiast, and a long time ago I transferred my Doctor Who video collection on to the computer. This seemed as good a trial as any, so I dumped an all-records report into a file and ported it via the RS-232 link to the ST.

I then set up a format which contained the data items I required (see Figure I), and used the import utility to bring the data in. This seemed a little quirky in medium res, and took quite a while to get right. Once in LaserBase the data seemed intact, and the program worked well.

I have only a couple of gripes, including the lack of any sort of macro command language. It would be very nice to select and run a single file to do a series of printouts with different criteria – as you can in DBase – but sadly this is not implemented. The best you can do is save your report formats to disc and run them one at a time. Figure II shows a sample printout from one of the reports.

I also found data entry could be very awkward if you didn't have the key item of the record you

DOCTOR WHO VIDEO CHECKLIST, WILLIAM HARTNELL STORIES		
Story Title	Video	Quality
A PILOT EPISODE (UNSCREENED)	2 ALL	4
B AN UNEARTHLY CHILD	4 ALL	4
C THE DALEKS (THE DEAD PLANET)	7 ALL	7
D THE EDGE OF DESTRUCTION	2 ALL	5
E MARCO POLO	7 -	5
F THE KEYS OF MARINUS	6 ALL	7
G THE AZTECS	4 ALL	5
H THE SENSORITES	6 ALL	6
J THE REIGN OF TERROR	6 1 - 3	4
K PLANET OF GIANTS	6 -	3
L THE DALEK INVASION OF EARTH	3 ALL	5
M THE RESCUE	6 ALL	4
N THE ROMANS	2 ALL	4
P THE WEB PLANET	4 -	3
Q THE CRUSADE	6 ALL	2
R THE SPACE MUSEUM	4 -	2
S THE CHASE	4 1 - 2	4
T THE TIME-MEDDLER	6 ALL	4
U GALAXY FOUR	4 ALL EXCEPT 4	4
V MISSION TO THE UNKNOWN	4 -	4
W THE MYTH MAKERS	1 -	3
X THE DALEK MASTERPLAN	4 -	5
Y THE MASSACRE	12 -	2
Z THE ARK	4 -	2
AA THE CELESTIAL TOYMAKER	4 ALL	3
BB THE GUNFIGHTERS	4 -	5
CC THE SAVAGES	4 -	2
DD THE WAR MACHINES	4 -	2
EE THE SMUGGLERS	4 ALL	5
FF THE TENTH PLANET	4 1 - 2	2

List dated: Fri, Aug 8, 1986

Figure II: A sample report printout

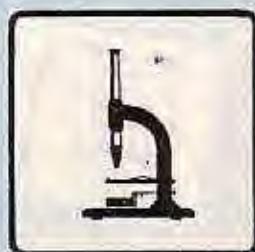
Page 1

Story Title	THE DALEKS (THE DEAD PLANET)		
Writer(s)	TERRY NATION		
Director(s)	CHRISTOPHER BARRY		
Doctor	WILLIAM HARTNELL		
Screening Date	Sat, Dec 21, 1963		
No. of Episodes	7	Season	1
Episode Length	25	BBC Code	B
Quality	7		

Figure I: The first of the two data entry screens defined

want to update. The search option is so slow that you can almost go and make a cup of coffee while you wait for your record to come up, and if you make a mistake, the back option does not always go back to the last record viewed, but to the last one saved.

Overall, then, a very useful tool if you want an easy to use and versatile database. What you lose in features to a DBase II clone you gain in polish and ease of use – not to mention the excellent support service that Laser offers its customers. I'm not sure how it would cope with a really large database, but I suspect that the search delay could get very tiresome. Still, if you only want to use relatively small databases, you certainly won't go far wrong with LaserBase.



# NEXUS

## NEXUS EPROM DEVELOPMENT SYSTEM

The Nexus EPROM Development system is an EPROM simulator/programmer of enhanced capabilities. One is available now for the Atari ST range of computers. It plugs into the cartridge port and will allow you to:

- Develop ST cartridge software without ever having to program an EPROM.
- Use your ST as a professional 68000 hardware development system.
- Blow EPROMs 16 bits wide or 8 bits wide (depending on target system architecture).
- Manipulate data between its 64K of EPROM simulation RAM and the ST's disk drive(s) and serial port in binary and a variety of hex formats.

Of far higher specification than probably any available dedicated EPROM programmer/simulator, amongst the system's features are:

Internal (ST) and external (target system) EPROM simulation with 64k of static RAM, the first ever true 16 bit simulator/programmer, LS and MS EPROMs programmed simultaneously in two ZIP sockets, automatic transparent 'split and shuffle', intelligent programming of all EPROMs 8k and above, SID style GEM window on simulation RAM or EPROM(s) including slider, icon manipulation etc, Edit, Locate a Value, Block Move, Fill/Clear, Checksums, Blank check, Program Check, Automatic or Manual Verify, External EPROM Simulation autonomous from ST operation, on-board Vpp generation etc.

In the now envied Atari tradition of "Power without the Price" the cost of this remarkable system is £175.00. Included in this price is the highly professional GEM software and extensive comprehensible manual.

For delivery of your Nexus EPROM Development System by return of post, send cheque/P.O. for £201.25 to include VAT, P&P to:

**Nexus Technical Services Limited**  
38 Melrose Avenue, Reading RG6 2BN  
Tel: (0734) 664559

Also available:

Socketed ST cartridge boards to take four EPROMs 8k or above (eg. 4 x 27256 = 128k)  
£14.75 inc. VAT, P&P

## York Computer Centre

### THE ATARI SPECIALIST IN YORKSHIRE!

Atari 130 XE	£99.95
Atari 130XE Starter Pack with cass. recorder + FREE Miner 2049er + Pole Position	£149.95
Atari 520STM + SF354 Disk Drive	£449.00
Atari 520STM + 2 SF354's + SM124 Mono Monitor	£699.00
Atari 520STM + 2 SF354's + Colour Monitor	£849.00
Atari 520STM + 2 SF354's + Mono Monitor + SMM 804 Printer	£849.00

### MEMORY UPGRADES!

600XL to 64K Kit New Low Prices	£39.95
600XL to 128K Kit	£89.95
800XL to 128K Kit	£59.95
800XL to 256K Kit	£99.95

Large Range of Software, Accessories, Books and Magazines.

Please send S.A.E. for List.

All prices are inclusive of VAT & P&P

7 STONEGATE ARCADE  
YORK  
TEL: 0904 641862



## SUPERTEC ATARI USER OFFERS

**NEW JUST ARRIVED!**  
CUMANA DOUBLE DENSITY DRIVES FOR ST  
Telephone for details

**SOFTWARE PUNCH**  
ATARINET (Order Ref 02)  
Minimum three stations +VAT per station £160.00

**MODEMS**  
by Miracle Technology  
WS2000 (Order Ref 05) £108.70 +VAT  
WS 4000 Auto-dial/ Auto-answer (Order Ref 07) £130.39 +VAT

**LARGE RANGE OF ST SOFTWARE**  
Including:  
KUMA - HABA - ATARI  
SOFTWARE PUNCH  
BATTERIES INCLUDED  
PHILON - CASHLINK  
Call for details and prices

**DISCS**  
5 1/4" (Pack of 10) (Order Ref 04) £7.50  
3 1/2" (Order Ref 05) £2.50 EACH

**PERSONAL SHOPPERS WELCOME**  
MON-FRI 9am - 5pm

**BULLETIN BOARD**  
0268 293639 (24 HOURS)  
300 BAUD

**SUPERTEC LTD.**  
CORNWALLIS HOUSE,  
HOWARD CHASE,  
BASILDON, ESSEX, SS14 3BB Tel: 0268 282308

**COMPLETE SYSTEMS!**

Huge Range to choose from call for details and prices

**ATARI 8 BIT ALSO SUPPORTED!  
850 INTERFACE IN STOCK!**

POST YOUR ORDER OR CALL TONY DWYER ON 0268 282308

Please send me the items marked. I enclose Cheque/Postal order for the full amount, including VAT £.....

OR Debit my Access Card Number:



Ref	Qty	Price (excl VAT)
01		£102.50
02	100+10%	£164.00 (per station)
03		£13.85
04		£7.50 (per 10)
05		£2.50
06		£12.00
07		£48.95

Access  
AT/8

Name \_\_\_\_\_  
Address \_\_\_\_\_  
Postcode \_\_\_\_\_  
Signature \_\_\_\_\_  
PLEASE ALLOW 28 DAYS FOR DELIVERY

# Design your own Xmas cards

**Program:** Printmaster

**Price:** £39.95

**Supplier:** Software Express, 514-516 Alum Rock Road, Alum Rock, Birmingham B8 3HX. Tel: 021-328 3585.

**PRINTMASTER** allows you to design Christmas cards, calendars, signs, banners, headed note paper, and much more.

There are 122 predefined graphics and you can also add your own to the list by using the built-in editor. You can choose from eight different text fonts and there are 11 different borders to frame your masterpieces.

Extra graphics are available on two Art Gallery discs which can be bought separately for £29.95 each. The program is mouse or cursor key driven, and all choices are made from simple menus.

The 34 page manual gives detailed instructions on how to make a design and each stage is presented in a clear and informative manner. The box also includes information on special ribbons and kits to print out your designs onto T-shirts and other materials. Printing out the designs couldn't be simpler and a larger number of printer drivers are included. However it is worth checking that your printer is supported before you buy.

Printmaster is a very easy to use program that performs its task well. A definite must if you want to design personalised stationery or want to use your printer to the full.

# It's fast and furious ST arcade action

**Program:** Red Alert

**Price:** £24.95

**Supplier:** Software Express, 514-516 Alum Rock Road, Alum Rock, Birmingham B8 3HX. Tel: 021-328 3585.

**RED Alert** from Antic is based on that old favourite **Missile Command** in that you defend the cities from the computer controlled enemy attack.

Whereas **Missile Command** gave a side view

of several cities and showed bombers and bombs coming from above, **Red Alert** shows an overhead view of either the United States or Europe depending on your choice.

ICBMs come from both sides of the screen and home in on your cities. Submarines also pop up in the oceans and fire the occasional volley. Your defences include missile and laser bases and a laser satellite. The aim and firing of each weapon is controlled by the mouse.

You can choose the placing and number of cities and bases within certain limits, even in the sea! One point which is surprising is the lack of a printed manual, the only instructions being on a file on the disc. Antic unreasonably ask that you write to them for the printed manual enclosing another £7.95. Considering the price of this game you would expect a manual to be thrown in.

**Red Alert** is one of those fast and furious games where you eventually find yourself swamped by overwhelming odds. It should appeal to arcade addicts who own STs.

<b>Sound:</b>	6
<b>Graphics:</b>	6
<b>Playability:</b>	7
<b>Value for money:</b>	6
<b>Overall:</b>	6

# Help for bad spellers

**Program:** Habaspell

**Price:** £39.95

**Supplier:** Haba Systems, Pier Road, North Feltham Trading Estate, Feltham, Middlesex TW14 0TT. Tel: 01-751 6451.

**HABASPELL** is a GEM-based spell checker for the ST, with over 17,000 words in its user expandable dictionary. A document is first prepared using **Habawriter** or an ASCII-based word processor. It is then loaded into **Habaspell**, where each word is checked against the dictionary.

The program stops at every word it doesn't know and the user has the choice of correcting the word, adding it to **Habaspell**'s dictionary or ignoring it. If the word is ignored so are all further occurrences of it.

**Habaspell**'s relatively small dictionary is annoying at first, but once you have checked your old documents it will know most of the words you commonly use. **Habaspell** will not operate correctly with **1st Word** or **STWriter** files because it takes some control codes to be part of the next word.

**Habaspell** works well, but its small dictionary does not compare well with the competition in this field.

**Reviewed by**  
**Andrew Ralston**



# BYTEBACK



## ADVENTURE

Pawn	21.00
Mind Forever Voyaging	38.00
Hitchhiker's Guide	24.50
Zork I	19.50
Zork II	39.00
Zork III	39.00
Deadline	19.50
Bally Hoo	34.00
Cathedral	34.00
Enchanted	34.00
Infidel	39.00
Sorcery	39.00
Spellbreaker	43.00
Starcross	43.00
Suspect	39.00
Suspended	43.00
Witness	34.00
Planefall	19.50
Seasaliver	19.50
Sunday-Fusion Legacy	26.00
Borrowed Time	21.00
Hacker	21.00
Minishadow	21.00
Crimson Crown	34.00
Transylvania	34.00
Kings Quest 2	21.00
Ultima 2	43.00
Winnie The Pooh	21.00
Zed and West	21.00
Amazon	43.00
Fahrenheit 451	43.00
Nine Princes of Amber	43.00
Perry Mason M. Murder	43.00
Treasure Island	34.00

## GAMES

Winter Games	34.00
Leader Board	34.00
Colourpiece	17.00
Bratzaos	29.00
Little Computer People	29.00
Time Bandit	25.00
Universe II	59.00
Mission Mouse	17.00
Mud Pies	17.00
Major Motion	17.00
Flipside	17.00
Hex	34.00
Lands of Havoc	17.00
Backgammon	34.00

HARDWARE

10 x 3.5" Diskettes in	129.00
Flip'n'File Box	28.00
Chat (Comms pack)	17.00

ALL PRICES INCLUDE VAT AND FIRST CLASS POST  
TELEPHONE (0636) 79097 FOR PERSONAL ASSISTANCE  
Send Cheque/PO to:

BYTEBACK

20a SPRING GARDENS,  
NEWARK, NOTTS NG24 4UW

# ATARI S.T. SOFTWARE AUTHORS

With **microdeal** You Really Get  
The Best Deal

- ★ High percentage of GROSS receipts for royalties.
- ★ Your product marketed throughout the world by Microdeal & their associates — Michtron — PSL.
- ★ High level P.R. for your products with press reviews, exhibitions, WORLDWIDE, advertising WORLDWIDE.
- ★ Technical support from our own authors both in the U.K. & U.S.A. Why invent the wheel twice?
- ★ Hardware on loan or at subsidised price together with copies of ST magazines/books from around the world.

When considering a publisher for your Atari products —

remember **microdeal** is No 1 on the ST.

ELECTRONIC PUBLISHING

MR. J. Symes Managing Director  
Microdeal Ltd. Box 68 St Austell  
Cornwall PL25 4YB Tel 0726 68020

WE NEED  
ATARI ST  
ARTISTS AS  
WELL

MAIL ORDER

# TROWBRIDGE COMPUTER SHACK

YOUR **ATARI** DEALER  
FOR THE  
WEST OF ENGLAND

## ATARI ST

\*WE CHALLENGE YOU TO FIND A BETTER DEAL ANYWHERE\*

PART EXCHANGE : FINANCE : REPAIRS : UPGRADES : DRIVES : PRINTERS  
IN FACT

EVERYTHING FOR YOUR ST.

WE PERSONALLY DELIVER AND INSTALL YOUR ST.  
ANYWHERE ON UK MAINLAND

## SOFTWARE

IF ITS AVAILABLE AND ITS GOOD THEN WE WILL HAVE IT IN STOCK

8 Timbrell Street,  
Trowbridge, Wiltshire. Tel: (02214 67299)

PRESTEL MBX NUMBER 221467299

**Product:** Sundog; *Frozen Legacy*

**Price:** £39.95

**Supplier:** Software Express, 514-516 Alum Rock Road, Alum Rock, Birmingham B8 3HX. Tel: 021-328 3585

**SUNDOD; Frozen Legacy** is a science fiction adventure game set in the Jebal Imperial Protectorate, a loosely-knit federation of planets. All action takes place within the Drahew Region, a cluster of 12 systems containing 18 inhabited planets. You may travel within cities, from city to city, from planet to planet and from system to system... so begin the instructions to this impressive game.

However it is not as easy as it sounds. Your one man star freighter was left to you in the will of an unknown uncle who died under mysterious circumstances and you have no idea how to fly it.

The manual doesn't help much either. Your tutor will be the school of hard knocks - you learn far faster when your life depends on it.

Of the many tasks that you have to undertake in your uncle's name one involves the transporting of a religious group held in cryogenic suspension to a colony somewhere on the planet Jondd.

What with pirate attacks, muggers, engine malfunctions, buying and selling goods, eating and sleeping, you've a formula guaranteed to create ulcers.

Sundog features zoom action, that is, various displays open up out of the screen as necessary in a manner not dissimilar to GEM windows. You begin the game with a bird's eye view of the inside of your ship.

The manual supplied with the game gives a brief look at the use of the mouse in manipulating your player and is not exactly comprehensive, but then it's not supposed to be. By leaving chunks of information out the designers have helped bring out the atmosphere of the unknown.

The action takes place on several scales. You can move around a city on foot or by using the Pod, a detachable ground vehicle - but watch out for parking tickets.

The cities are made up of banks, the ubiquitous Unitellers, trading houses, hotels, spare parts centres and residential areas. You can enter all but the last to use their services.

Information, a valuable asset, can be found in a variety of places, notably the potentially dangerous black market exchanges. You can also pick up bargains there or, just as easily, be ripped-off.

The largest scale of travel is inter-system, achieved by using warp drive. The shorter the distance the more likely the journey is to

# A taste of things to come



succeed. You are not told this, but take it from me it's true.

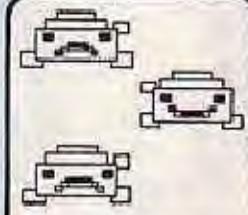
In space no one can hear you curse, especially when the pirates turn up. Your shields will absorb some of their energy bolts, but only up to a point. As always, you can shoot them down if you're good enough, but watch out - your lasers aren't of the rapid fire variety and need recharging between shots.

When bits of the Sundog are damaged you can replace them with energy-draining temporary shunts. You can buy replacement parts at your next port of call - assuming, that is, that you survive.

Extensive save game facilities are given in great detail in the manual, and though I've always thought these are a bit of a cop out they do save frustration in starting from the beginning.

Sundog is excellent but it does have a few faults. Although it is a massive game I do feel that it might become a little repetitive after a few weeks playing.

The visuals are very impressive, but there is no sound, which lessens the overall effect. If you can afford the asking price do give it a try. It is certainly a taste of things to come for the ST.

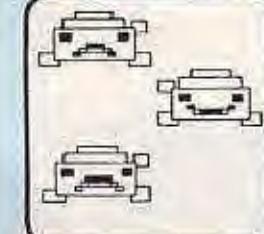


**Reviewed by Jason Kingsley**

<b>Sound .....</b>	<b>none</b>
<b>Graphics .....</b>	<b>8</b>
<b>Playability .....</b>	<b>8</b>
<b>Value for money .....</b>	<b>7</b>
<b>Overall .....</b>	<b>8</b>

**Program:** Phantasie  
**Price:** £39.95  
**Supplier:** Software Express, 514-516 Alum Rock Road, Alum Rock, Birmingham B8 3HX. Tel: 021-328 3585

## Reviewed by Bob Chappell



**BEING stout of heart and noble of brow, not to mention skint of pocket, you have decided to try and win fame and fortune by scuppering the notorious Black Knights. This cutthroat crew, egged on by the evil necromancer Nikademus, are currently terrorising the distant Isle of Gelnor.**

Phantasie is a Dungeons and Dragons-style adventure in which all commands are input using your mouse. Unless you are restarting a previously saved game the quest begins in the small town of Pelnor, the first of many. Only in the towns can you gather your gang, rest and recuperate, visit your bank manager and buy new equipment.

First recruit your merry band by calling at the local guild. Here you can generate the names, race, professions and characteristics of up to 37 guild members from which you may hand-pick six for your journey. The program determines their attributes – strength, intelligence, dexterity, constitution and charisma.

Other characteristics allocated by the program include luck, age, hit points – amount of thumping a character can sustain before shuffling off this mortal coil – gold in bank, magic ability and experience points earned by monster bashing. Also score – general playing strength – and sundry other skills including the ability to attack, parry, pick locks, swim, detect and disarm traps, listen for monsters and so on.

Next stop should be the bank where you can withdraw gold pieces from any of your party member's accounts. Being a sociable bunch, all withdrawn gold is pooled. Deposits in the bank from the pool are first allocated in what you determine to be appropriate shares.

With cash jingling in your pockets you can buy equipment for each member from the armoury – weapons, armour, shields, scrolls and magic and healing potions.

Choose carefully, for example it's no good buying a whacking great sword if the poor wretch you've picked it for has got muscles like sparrow's kneecaps and barely the strength to wield a knitting needle.

You can pay for training to increase your experience level, but may need a certain number of points before they'll agree to take you on. A visit to the local mystic will give you the total current score for your party, while popping in to the hostelry will revitalise your group.

Now you are ready to leave the town and

# Give gran the vapours

begin crossing the wilderness.

The screen displays a stylised map of the immediate area with your party represented by a large cross which is moved using the mouse. On reaching the edge of the screen the picture is replaced by another showing the next portion of countryside.

During the crossing, and sometimes while you are asleep at night, you are sure to encounter monsters who may be hostile or not, but they will certainly not be helpful.

The screen changes to display both your party and the monsters. Some good graphics here – many of the minimally animated monsters shown are enough to shock the socks off Vincent Price.

During an encounter you can elect to fight, surrender, greet the monsters, beg mercy or flee. When you fight each member can be instructed to thrust, attack, lunge or parry. You can opt to cast a spell if you have the skill and possess any of the plethora available. The result of a mêlée will be either death or damage to any of the combatants, and the eventual victors win the spoils.

At most other times you may inspect your party, use potions, cast certain spells – healing, transportation, vision and so on – and enter buildings, towns and dungeons.

If or, more likely, when your party are all killed you are summoned to the Astral Plane. This scene is not for those of a nervous disposition – the foreboding sound effects and eerie graphics are likely to give your granny the vapours.

The game is supplied on two discs – game and data – and is handsomely boxed with a superb manual. Although animation, sound and graphics are reasonably good they don't take as much advantage of the ST's capabilities as I would have liked.

Even so there's a richness of detail in Phantasie, and the beauty of the game is that it's simple to get into and play. It's the most accessible D&D game around. Very enjoyable escapist fun and one that should keep you coming back time and again.

Sound .....	7
Graphics .....	8
Playability .....	9
Value for money .....	8
Overall .....	8

# AS EASY AS 1-2-3



**AN INTEGRATED SPREADSHEET PROGRAM**

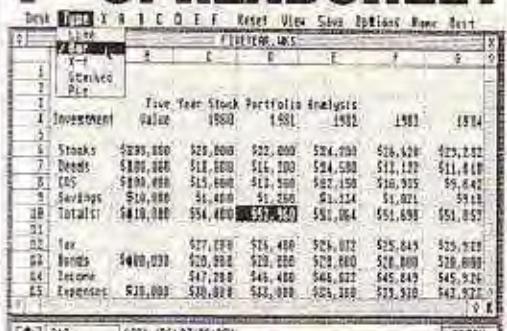
## VIP PROFESSIONAL

VIP Professional is an extremely easy to use integrated spreadsheet program for the home or office. To give you the best program possible on your Atari ST, VIP Professional integrates the three essential applications of Lotus 1-2-3™ with the smart face of Jazz™. VIP requires only one disk drive to operate and also works with a hard disk drive. It is compatible with both monochrome and colour systems.

## INSTANT HELP

VIP Professional has Instant Help at your fingertips. At your whim, you can find more information about what you are working on, or more about other parts of the program.

## 1 - SPREADSHEET



VIP Professional was modelled after the powerful, best selling Lotus 1-2-3™ program. It has every feature, every command of that program. In fact, the experienced 1-2-3™ user will feel right at home using the same keystrokes. But this version is made even easier to use by adding the user friendly face of GEM, so the beginner can use it right away too. If you want to do your home budgets, financial planning, or sophisticated business inventory control or budget modelling, VIP Professional will fill every need. And you can freely use 1-2-3™ or VIP Professional files created on other computers in VIP Professional on your Atari ST. And VIP Professional is not only flexible, it's powerful too, with a full 8,192 row by 256 column worksheet to use with up to four megabytes of memory. (Note: Lotus 1-2-3™ version 1 has only 2,048 rows).

Probably the most impressive program to have been released so far for the Atari 520ST, VIP Professional is an extremely easy to use, integrated spreadsheet, database and graphics program which is identical both in features and commands to Lotus 1-2-3™. The same spreadsheet analysis, information management and extraordinary business graphics are all combined in one easy to learn, affordable package. What's more, VIP Professional not only has all the features of 1-2-3™, you can also type the same commands to do the same things. Or, better still, if you have the ROM version of GEM on your ST, you can use a mouse to make it even simpler! Probably the most surprising feature of VIP Professional is not its total compatibility with Lotus 1-2-3™, nor its ease of use with the GEM environment, but its price. Lotus 1-2-3™ for the IBM PC AT costs £395 (+VAT=£454.25), whereas VIP Professional for the ST is a mere £169 (+VAT=£194.35). That's less than HALF PRICE!

**FOR THE 16-BIT ATARI**

**ST**  
**PERSONAL COMPUTER**

## OTHER FEATURES

- 1) VIP Professional calculates to full 300 digits against Lotus 1-2-3™ which only calculates to 100 digits.
- 2) VIP allows for 256 Query Fields against only 32 allowed by Lotus 1-2-3™.
- 3) VIP GEM version will have a complete mouse interface, capable of icons, drop-down menus, dialog boxes, different pointers, small bars, etc. Not incorporated in Lotus 1-2-3™.
- 4) VIP allows different fonts and provides a grid for cells which can be turned on and off. Not incorporated in Lotus 1-2-3™.
- 5) VIP supports greater memory and larger spreadsheets than Lotus 1-2-3™ version 1.

6) VIP graphs can be viewed at the same time as the worksheet. The pie charts can be exploded.

7) VIP is currently being written for the IBM, AMIGA, ST and APPLE MACINTOSH.

## GEM VERSION

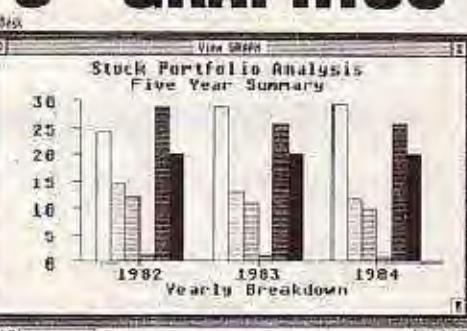
The current version of VIP Professional that is being shipped is identical to Lotus 1-2-3™ and does not therefore use icons, windows, or the GEM interface. When STs are available from Atari with GEM and TOS on ROM, VIP will release a version to make full use of the ROM and the GEM features. This version will be issued FREE OF CHARGE in September 1986 to all existing users of VIP Professional.

## 2 - DATABASE



VIP Professional includes a powerful data manager to arrange, store and analyse your important information. It can be used to store records about your home or business and do extensive searches, sorts and comparisons. It allows up to 8192 records, with up to 256 fields and queries can be made with up to 32 search criteria. The database manager can be used in conjunction with the spreadsheet commands to add greater power to the database facilities including sorting specific ranges of the database. You can also specify how you sort files from the highest value to the lowest value (or from the lowest to the highest), or alphabetically (forwards or backwards). The graphics part of VIP Professional can be used to show trends in the database or other information. With its powerful statistical functions, it has almost limitless power.

## 3 - GRAPHICS



VIP gives shape to your figures by letting you graph your data into six different types of graphs; in startling colour or black and white. Pie charts, bar graphs, stacked bar graphs, line graphs, scatter graphs and XY graphs. You can graph your spreadsheet or database data to give instant professional presentations. Your graphs will change instantly as you change the data. When creating a graph you may specify a main heading, a sub heading and a third title at the base of the graph. The necessary scales can be defined either by the user or automatically created. In pie graphs, the most important section of the pie can be separated from the other sections to draw attention to its importance. You may save graphs individually on disk for use at a later date. You can also print your graph on any Epson compatible dot matrix printer.

## FROM SILICA SHOP - THE UK'S NO1 ATARI SPECIALISTS

### AVAILABILITY

VIP Professional is available from all Atari ST distributors and their dealers throughout the country. If your local dealer does not have VIP in stock, it can be obtained by mail order (with post and packing free) from:

**SILICA SHOP LTD, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX**

Tel: 01-309 1111

### THE POWER OF 1-2-3 WITHOUT THE PRICE!

Lotus 1-2-3 and Jazz are trademarks of Lotus Development Corporation

**£169**  
**(+VAT=£194.35)**

## INFORMATION REQUEST FORM

To: Silica Shop Ltd, Dept ATUSR0986, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

Please send me further details of VIP Professional for the ST

Mr/Mrs/Ms: \_\_\_\_\_ Initials: \_\_\_\_\_ Surname: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

Postcode: \_\_\_\_\_

I am interested in the Atari ST  
I already own an Atari ST





This month we've extended our Five liners section to include ST owners. If you've written any useful or interesting five line programs in either Basic or Logo, why not send them in?

We pay £25 for each one

published. Simply send a copy on disc along with a clear listing and good explanatory notes to:

*ST Five Liners, Atari User, Europa House, 68 Chester Road, Hazel Grove, Stockport SK7 5NY.*

## Line patterns — fast!

THE first of our Five liners for the ST is a Basic program that spends its time drawing line patterns on the screen. The program is amazingly fast and produces some very interesting patterns.

Line 10 opens the output window to full and clears it.

```

10 fullw 2:clearw 2
20 randomize 0:d = int(rnd(0)*10)randomize 0:e = int(rnd(0)*10)
30 if d = 0 or e = 0 then goto 20
40 for a = 0 to 1000 step 3.1415927/30
50 x = 75*cos(a):linef x+300,x+170,150*cos(a/d)+300,150*sin(a/e)+170:next a

```

Line 20 places suitable random values into variables D and E.

Line 30 makes sure that there will be no division by zero.

Line 40 sets up the main loop.

Line 50 draws the patterns using the LINEF command.

THE second of our ST Five liners is a program to allow a true 1:1 proportional screen dump on an LX-80 printer. Normally ALT-HELP produces a horizontal, but slightly out of proportion, printout.

This routine will dump the screen sideways on to a full sheet, and each

pixel will be square — thus printing circles and so on correctly.

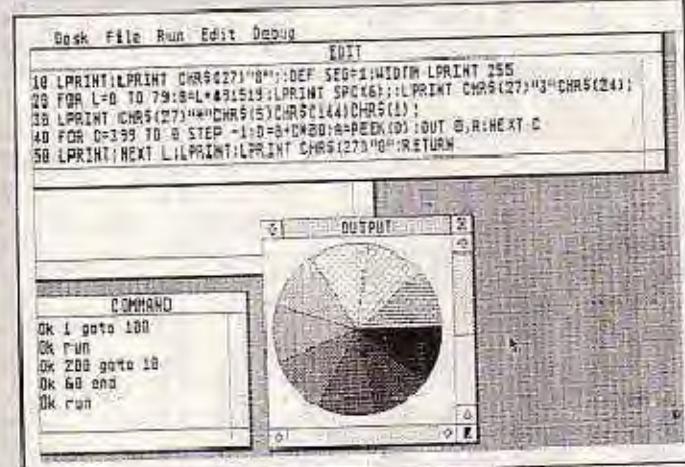
It makes use of the ESC, \*, 5 printer code, so if your printer does not support this don't attempt to use the routine.

JIM TAYLOR

## Keeping things in proportion



Before: A screen dump produced with the normal ALT-HELP method



After: The Five-liner program now prints correctly proportioned circles and so on.

**ATARI ST**  
HARDWARE, SOFTWARE AND BOOKWARE

**HARDWARE**

1040 STF Mono - The Pawn	£9.18
1040 STF Colour - The Pawn	£10.33
SF314 1Mb Disc Drive	£19.98
SM124 Hi-Res Mono Monitor	£14.98
CMS512 Colour Monitor	£22.99
Nightingale Modem	£13.95
OMF 2000 NLO Printer	£15.98

**SOFTWARE**

68MAN	£19.45
Lattice 'C' (MC68000)	£9.95
TDI Modula II	£9.95
MCC Pascal	£8.95
ST Spell-it	£2.95
eBase II (CP/M)	£11.95
Degas	£3.95
The Pawn	£2.45

**BOOKWARE**

Tricks and Tips Atari ST	£12.95
Gem on the Atari ST	£12.95
Anatomy of the Atari ST	£12.95
58000 Assembly Lang. Programming	£19.95
Advanced User Guide Atari ST	£12.95
Modula-2 Programming	£12.95
Introduction to Pascal	£19.95

UK Prices include VAT + Postage  
Please call for items not listed  
Official Purchase Orders Accepted



VISA

**MICROWAY COMPUTERS**  
39 High St, Rainham, Kent

Telephone  
0634 376702

Desk File View Options

R11

44293 bytes used in 4 items.

DISK ACCESSORY CALCULATORS

for the ST series

Always on Hand - Easy to Use!

Accountant's Calculator - £12.95 (As illustrated)

- True Random & Memory
- Full Floating Point
- Ideal for Book-Keeping etc.

Programmers Calculator - £15.95 (Not illustrated)

- AND, OR, NOT, XOR, LSHFT, RSHFT
- 32 bit numbers
- Decimal, Hex & Octal
- Memory
- Useful aid for programmers

Prices include P&P. Send Cheque/PO to:  
Brazier Computer Systems  
8 Valley Rise, Sarsbury Green, SOUTHAMPTON, SO3 6BN  
Tel: (04895) 3442



# SERIOUS BUSINESS or SERIOUS HOBBY

OUR SERVICE DOESN'T STOP AT JUST GIVING COMPETITIVE PRICES AND A FAST FRIENDLY SERVICE WHY NOT JOIN OUR COMPUTER GROUP. PUBLIC DOMAIN SOFTWARE ETC. SUPPLIED FREE TO MEMBERS. LARGE RANGE OF ATARI ST SOFTWARE/HARDWARE/BOOKS AVAILABLE.

ATARI ST KEYBOARDS

Atari 520ST	£312.00
Atari 520STFM	£429.00
Atari 520STM plus (1Mb mem)	£390.00
Atari 1040STF	£569.00

MUSIC ACCESSORIES

Casio CZ101 + Leads + Discs	£255.00
-----------------------------	---------

PRINTERS

Atari SMM804 80 cps	£156.00
Canon PW10B04 NLO	£229.00
Canon A-55 15" NLO 180cps	£346.00
Epson LX80 NLO 100/220cps	£198.00
Epson FX85/FX105	£310.00/£410.00
Epson JX-80 Printer/Plot	£319.00
Juli 55/10/5520	£210.00/£300.00
Juli Up-grade Colour Kit	£89.00
Juli 2200/8100	£219.00/£245.00
MP165/200	£198.00/£280.00

DISCS

3.5" 135psi 3800	£1.85 (or less)
3.5" 135psi 8000	£2.35 (or less)

REPAIRCOVER (TYPICAL 8% ANNUAL)  
24HR RESPONSE MAINTENANCE/  
INSURANCE

CONNECTING LEADS

ST Video/Printer/etc. Around	£12.00
------------------------------	--------

MONITORS

Atari ST/24 B/W Monitor	£117.00
Atari Colour Monitor	£289.00
Kaga Vision 1017	£210.00/£330.00
Microvitec 1431/51	£175.00/£225.00
Philips 5533 (ST/BM Col)	£251.00
Fidelity CM1400 TV/Mon	£176.00

UPGRADES, CASES, DIY PROJECTS, ETC.	From £80.00
512K-1Meg	£289.00
KECM/ST Mon/Drive Stand	£20.00
KECM/ST Printer Stand	£18.00
KECM Professional Units	£PHONE
TV Modulator/Chk/Vide/A/D-D/A	

PRICES EXCLUDE VAT & CARRIAGE. PLEASE TELEPHONE  
IF YOU CANNOT SEE THE PRODUCTS YOU WANT AND TO CONFIRM LATEST PRICES.  
CLEARANCE OF OLD STOCK LINES - PX EQUIPMENT ETC. - TELEPHONE  
WE ALSO OFFER BUSINESS CONSULTANCY/R&D/ETC. - FOR FURTHER INFORMATION  
AND REGULAR COMPREHENSIVE PRICE LISTS/NEWS LETTERS ETC. CONTACT:

**K.E.C.M.**

KNIGHT ELECTRONICS (COMPUTERS & MUSIC)

8 WESTWOOD LANE, WELLING, KENT DA16 2HE.  
CALLERS BY APPOINTMENT ONLY PLEASE  
VAT REGISTRATION NO. 427 0353 73

TELEPHONE: 01-301 3746  
(24HR ANSWERPHONE)  
TELEX 89511 BGEOMS G

## Quality Language Compiler for Atari ST Programmers



**MODULA-2/ST**

**RRP: £99.95**

Modula-2/ST offers a Mac-like program editor using both mouse/menu and keyboard commands, Linker, Compiler and friendly GEM-illustrated manual.

It has the best "jump to compile error feature" yet seen by Bruce Webster of Byte Magazine. All compilation errors are stored and displayed one after another on the screen for speedy correction.

The full GEM interface and graphics are supported and GEM software may be developed using windows, mice, menus and graphics.

Modula-2 is the logical development of the Pascal language (Pascal programmers will only take a few days to adjust). Modula-2/ST is a highly productive language producing fast, quality, 32-bit standalone code.

"A fine example of what a good language should be" and "a good way to move away from DRI's C" is the way Sol Guber describes Modula-2/ST in Atari User.

To fully exploit the potential of Modula-2/ST, we recommend a minimum configuration of 1MByte disk storage and the purchase of any of the recently published books on programming with GEM.

Modula-2/ST is available from the following distributors:

Greymatter, 4 Prigg Meadow, Ashburton, Devon TQ13 7DF. Tel: 0364-53499. • Silica Distribution Ltd, 1-4 The Mews, Hatherley Road, Sidcup, Kent DA14 4DX. Tel: 01309-1111. • Silicon Centre, 7 Antigua Street, Edinburgh, Scotland Tel: 031-557-4546. • Silicon Centre, Unit 16, Anderston Centre, Glasgow G2 7PH. Tel: 041-226-5346. • Software Express, 514-6 Alum Rock Road, Alum Rock, Birmingham B8 3HX, UK. Tel: 021-328-3585. New World Computers, Bruunsgaard B, 8000 Aarhus Central, Denmark. Tel: 045-618-3130. • Micro-Applications, 13 Rue Sainte Cecile, 75009 Paris, France. Tel: 014-770-3244. • Eureka Data AS, Ostensjøveien 39B, N-0067 Oslo B, Norway. Tel: 0472-6591/6522/6521. • Universal Electronics APL, PO Box 2154, Al Khobar 31952, Saudi Arabia. Tel: 09663-898-2081. • Sami Electronics AG, Bahnhofstrasse 7, 5400 Baden, Switzerland. Tel: 041-56-211422. • Atari (Belgium) BV, Hagenweg 7 B, Vianen, The Netherlands. Tel: 034-721844. • Pharma Pack International, Atar ST Software Dept, Van Gijnstraat 11, 2288 GA Rijswijk, The Netherlands. Tel: 070-906274. • Gerhard Knupe GmbH, Güntherstrasse 75, 46000 Dortmund 1, West Germany. Tel: 021-231-52803.

MODULA-2 SOFTWARE LTD

For further information please contact: Jane Parkhouse at  
Modula-2 Software Ltd, 29 Alma Vale Road, Bristol BS8 2HL.  
Tel: 0272-742796. Telex: 449273

Distributor and dealer  
enquiries welcome

# SOFTWARE FOR THE ATARI ST

## ►MCC ASSEMBLER

£49.95

A professional quality macro assembler with many useful features for the serious programmer. Standard Motorola 68000 mnemonics. Macro expansions. Over 160 explicit error messages. Fully formatted listings. Large range of directives. Includes the source of a simple debugger. The macro assembler chosen by Commodore for the Amiga.

## ►MCC PASCAL

£89.95

A powerful Pascal compiler that meets the exacting ISO 7185 standard (level 0). A fast, single pass compiler, generating native code. Comprehensive error handling. 32 bit IEEE format floating point arithmetic and full 32 bit integers. Chosen by Commodore for the Amiga.

## ►LATTICE C

£99.95

The well known Lattice C compiler. A full Kernighan and Ritchie implementation. Comprehensive libraries of UNIX and utility functions. Compatible with Lattice compilers on IBM-PC, Commodore Amiga, QL etc. Full IEEE format floating point arithmetic. Powerful data types including pointers, arrays, structures, unions, register variables etc; macros, conditional compilation and other pre-processors.

METACOMCO

Lattice is a trademark of LATTICE INC. GEMDOS is a trademark of DIGITAL RESEARCH INC. UNIX is a trademark of AT & T Bell Laboratories. Amiga is a trademark of Commodore-Amiga Inc. IDL is a trademark of Sinclair Research Ltd.

MENU+ ►NEW!

£19.95 ON ITS OWN

FREE WITH ANY METACOMCO LANGUAGE\*

MENU+ provides ST users with a friendly environment to control their programs, using pull-down menus and the mouse. Easy-to-use. Runs single programs or batches, avoids repetitive command line entry. The user can add his own tools, arguments and options. Runs any programs - not just Metacomco products.

## ALL METACOMCO PROGRAMMING LANGUAGES FOR THE ST HAVE THESE ADVANTAGES-

### ► INTEGRATED RANGE OF LANGUAGES ON THE ST AND OTHER 68000s

Metacomco's range of languages for the ST provides an integrated and consistent programming environment for ST programmers. Program modules written in different languages can be linked together. Metacomco's ST languages are compatible with their languages for Amiga and QL. Make it easy to port your programs by choosing Metacomco.

### ► GEMDOS LIBRARIES (Source code provided)

All Metacomco languages come with a set of GEMDOS libraries, making it easy to program the graphics and the other features of the ST. Full source code of all GEMDOS libraries is provided, allowing programmers to modify them. The source code is well documented.

### ► CHOICE OF LINKERS

All Metacomco languages include a linker. Metacomco program modules can also be linked using the Digital Research linker.

### ► FRIENDLY ENVIRONMENT

All Metacomco languages now include MENU+, an easy-to-use programming environment using pull-down menus and the mouse.

### ► SCREEN EDITOR

A powerful screen editor for preparing programs is included with every language.

### ► DETAILED MANUAL

Every Metacomco language comes with its own detailed manual.

\*EXISTING REGISTERED USERS CAN OBTAIN AN UPGRADE INCLUDING MENU+ AT A SPECIAL PRICE. PLEASE CONTACT METACOMCO DIRECT.

26 PORTLAND SQUARE, BRISTOL BS2 8RZ, UK.

TELEPHONE: BRISTOL (0272) 428781

5353 E Scotts Valley Drive, California 95066, USA Tel: 1-800-252-6382

## PCW SHOW. 3-7 SEPTEMBER '86

SEE US ON STAND 3079

IN THE GALLERY OF THE NATIONAL HALL

NEW PRODUCTS:

► BCPL ► CAMBRIDGE LISP ► MAKE UTILITY